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Incarceration or community placement: examining the sentences of cybercriminals

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The purpose of the present study is to fill a gap in our understanding of correlates of whether a cybercrime conviction leads to prison or community corrections. Using data from the Internet Crime Complaint Center reports, the results show two important correlates. First, a cybercriminal that has a previous public order offense is likely to be sentenced to prison rather than community corrections. Second, a cybercriminal that has a previous violent offense conviction is likely to be sentenced to prison rather than community corrections. The implications of these results are discussed.

Keywords: cybercrime; prison; community corrections

Crime can impact individuals and communities in numerous, almost always negative ways. For some types of criminal offenses, the harm that results is obvious, as individuals are injured, killed, property is lost or destroyed or individuals' health and financial well-being may be deleteriously impacted. For other types of offenses, the resulting harm(s) may be less obvious. Such is the case with one of the newer varieties of crimes becoming common in our society: cybercrime.

With the harms resulting from cybercrimes (not necessarily obvious nor consistent), there may well be additional confusion regarding what should be considered appropriate responses to such offenses. Available legal responses to cybercrimes are no different than those available for other types of felony offenses, and are most commonly distinguished between those that include a period of incarceration (typically in prison) and those that rely solely on community corrections.

Although our understandings of the forms, consequences, perpetrators, and victims of cybercrimes are rapidly growing (Higgins, 2010), there remains a serious deficit in knowledge about the type of the sentencing given to cybercrime offenders. Moreover, there is a lack of explanation available about whether there are both other legal and extralegal factors that may significantly affect the type of sentence received by cybercrime offenders. Addressing this gap is the purpose of the present study, we seek to identify the predictive factors of sentencing in a sample of cybercrime offenders.

Prison and community corrections sentences

According to the most recent available national data, in 2006, state courts sentenced an estimated 1.13 million persons for a felony conviction (Rosenmerkel, Durose,

& Farole, 2009). Of these sentences, 41% included a period of incarceration in state prison, 28% incarceration in jail, and 31% of sentenced felons received a sentence of community corrections (most frequently probation) (Rosenmerkel et al., 2009). When looking at convictions categorically by offense violent (77%) and weapons (73%) convictions were more likely than property (67%) or drug offenses (65%) to result in a sentence of incarceration. More specifically, the offenses most likely to result in a sentence of incarceration in prison were homicide (93%), rape (72%), and robbery (71%). Convictions for fraud/forgery (35%), drug possession (33%) and drug trafficking (29%) were the most likely to receive a sentence of probation.

Sentencing in federal courts shows a somewhat different pattern. In 2006 fully, 86% of federally convicted felons received a sentence of incarceration (in either prison or jail) (Rosenmerkel et al., 2009). Violent offenses (94%), drug offenses (93%), and weapons offenses (93%) were very likely to result in a sentence of incarceration, however, only slightly more than one-half (59%) of property offenders convicted in federal court received a prison or jail sentence.

Predictors of sentence variety

Offenders who are convicted of more than one felony are significantly more likely than those convicted of only one offense to be sentenced to prison (Rosenmerkel et al., 2009). Across all state court felons in 2006, only 37% of those with one conviction, but 51% with two and 63% with three or more conviction offenses received a sentence of incarceration (Rosenmerkel et al., 2009).

Demographics are important predictors of the type of sentence received by convicted felons. In state courts, for all offenses, 72% of men but only 60% of women are sentenced to incarceration (with 43% of men and 28% of women being sent to prison) (Rosenmerkel et al., 2009). Men are more likely than women to be sent to prison for all types of felony convictions, and women are more likely to be probated for all types of state court felony convictions (Rosenmerkel et al., 2009). This difference, frequently referred to as the chivalry hypothesis (Bishop & Frazier, 1984) is interpreted not as sentencing courts being harsher on men but rather that the departure is in courts exhibiting leniency toward women (Daly & Bordt, 1995). As explained by one observer, 'explanations for gender disparity in sentencing range from practical considerations of the differences in family roles, child rearing, and health care to arguments that male judges are likely to treat female offenders paternalistically or chivalrously' (Johnson, 2009, p. 767).

Racial disparities in sentencing have been a focus of voluminous discussions and research, despite the fact that at least on the surface racial differences in sentencing are not as pronounced as for sex. Whites convicted of felonies in state court are sentence to prison 66% of the time, compared to 72% for blacks (Rosenmerkel et al., 2009). And, for all types of offenses, except rape, a higher proportion of blacks are sentenced to prison than whites. Regarding community corrections sentences, whites are equally or more likely than blacks to receive such sentences for all offenses. This trend is supported by a meta-analysis drawing on the results of 71 studies examining racial effects at sentencing (Mitchell, 2005). This synthesis shows that:

> independent of other measured factors, on average African-Americans were sere sentenced more harshly than whites. The observed differences between whites and African-Americans generally were small … unwarranted sentencing disparities grows considerably, however, when contrasts examined drug offenses, imprisonment

> decisions, discretionary sentencing decisions, and recently collected federal data. (Mitchell, 2005, p. 462)

Racial disparities are most pronounced for black and Hispanic offenders who are male, young, and unemployed (Spohn & Holleran, 2000; Steffensmeier, Ulmer, & Kramer, 1998). Others have also shown an interaction of race and offense type leading to yet greater sentencing disparities, with non-whites convicted of drug offenses being especially likely to be sentenced to incarceration (Steffensmeier & Demuth, 2000).

In regard to age, researchers have found a wide range of effects of age on sentencing outcomes. While some have concluded that age is inversely related to sentence severity, others have found the opposite, and still others have concluded that age is not related to sentencing outcomes (Wu & Spohn, 2009). Drawing on the body of literature examining age and sentencing, Wu and Spohn (2009) employ meta-analytic methods and conclude that there is no effect of age on length of prison sentence.

Common beliefs, and some research, hold that there is also a social class influence on sentencing. Most research that attempts to examine social class relies on rough proxy measures (most often education or employment status). This body of literature, although perhaps using measures that are not the most valid and reliable, does 'find evidence that lower-class citizens are sentenced more harshly' (Johnson, 2009, p. 767). Not only are lower class individuals more likely to be sentenced more harshly, but so too are they more likely to be prosecuted (Bales, 1987). However, it is important to keep in mind that there is relatively little variation among criminal offenders in regard to such measures.

Characteristics of both individual criminal cases and the courts that issue sentences are also predictive of sentence variety. State court felony defendants who are convicted at trial (62%) are more likely than those who plead guilty (37%) to be sentenced to prison (Rosenmerkel et al., 2009). And, among those who are sentenced to prison, those convicted at trial typically receive harsher/longer sentences than those who plead guilty (Johnson, 2009; LaFree, 1985; Rosenmerkel et al., 2009). These patterns hold true across all varieties of offenses as well. In regard to courts, some research suggests that courts with smaller caseloads and in communities with fewer available correctional resources are more likely to issue sentences of incarceration (Johnson, 2005, 2006; Ulmer & Johnson, 2004). Others (Haynes, Ruback, & Cusick, 2010) have argued that when the major staff persons in a court (i.e. the 'courtroom workgroup') share characteristics and are a stable presence, there are influences (both toward and away from incarceration) on sentencing.

Sentencing of cyber offenders

Relatively little is known about the sentences imposed on offenders convicted of cyber (or any computer-related) offenses. Information from the United States Department of Justice (2010) does show that for the five-year period of 2006–2010, a total of 1177 individuals were convicted and sentenced for cybercrimes. Of these, only 51.7% (n=608) received a sentence including any prison time. For those who were sentenced to incarceration, sentences were typically fairly short. Of those receiving a sentence of incarceration, more than one-third (34.9%) were sentenced to 12 months or less, 27.3% received a sentence of 13–24 months in prison, 11.5% a sentence of 25–36 months, 12.3% 37–60 months, and only 6.7% were sentenced to more than 60 months of incarceration (United States Department of Justice, 2011).

In contrast to other types of offenses, this data suggest that cyber offender may be among the least likely variety of felons to be sentenced to incarceration. Therefore, it is important to better understand who among the population of cyber offenders in fact is likely to be sentenced to prison.

The present study

The purpose of the present study is to provide an understanding of the correlates of whether a cybercrime conviction leads to prison or community corrections. We used two research questions to guide this study. First, are there sex differences in whether a cybercrime conviction leads to prison or community corrections? Second, does the type of criminal history have a link to whether a cybercrime conviction leads to prison or community corrections? This study is significant because it provides unique information to two literatures–corrections and cybercrime.

Methods

Procedure and sampling

According to the Internet Crime Complaint Center, cybercrimes are more likely to occur in the west (National White Collar Crime Center [NWC3], Inc., 2010). In their 2009 report, California, Washington, and Nevada were in the top 10 list for states containing individual perpetrators. Moreover, Nevada, Washington, Montana, and Utah were all in the top five for states containing the most perpetrators per capita. This was supported by Marcum, Higgins, Ricketts, and Freiburger (2011), who found that law enforcement agencies in the Midwest and eastern areas of the USA are less likely to investigate cybercrime, including production of child pornography cases, compared to the west.

Based on the above information, researchers requested information from the Department of Corrections of three states in the western region of the USA. The director of research for each state's Department of Corrections was contacted and asked to send the following information on all cybercrime offenders sentenced in that particular state and who were currently under some form of correctional supervision (i.e. incarceration, probation, or parole):

- demographic information (i.e. race, age, sex, marital status, and children)
- religious and gang affiliation
- past conviction history
- current cybercrime conviction
- type of sentence received and length of sentence
- prison security level (if incarcerated).

No identifying information was requested. Once the data was received, it was cleaned, coded, and prepared for analysis.

Measures

In this study, we used a number of measures. Our dependent measure is whether the individual was sent to prison (1) or community corrections (0). Biological sex was measured as (1) male and (0) female. Third, race was coded as (1) white and (0) non-white. Current age was measured using an open-ended space. Fifth, gang

membership was measured as (1) yes and (0) no. Education was measured using a four-point measure (1) 11th grade or less, (2) GED/HS diploma, (3) HS diploma and some college, and (4) College diploma and/or more. The final three measures captured the number of public order, drug, and violent offense convictions, and they were measured using an open-ended space.

Analysis plan

The analysis for this study takes place in a series of steps. The first step in the analysis is a presentation of descriptive statistics. The second step in the analysis a presentation of the bivariate correlations. The bivariate correlations show the amount of variation that is shared between the measures. In addition, the bivariate correlations provide some indication of multicollinearity. The third step is a regression analysis. The regression analysis for this study is logistic regression. According to Menard (2002), logistic regression is appropriate to use when the dependent measure is dichotomous. As with other forms of regression, multicollinearity is a concern, but Menard (2002) argued that the tolerance measure may be used to determine multicollinearity. Freund and Wilson (1998) argued that tolerance levels at or below .20 were an indication of multicollinearity.

Results

Step 1

The first step is to provide an analysis of the descriptive statistics (Table 1). Sixty-five percent of the sample was sent to prison rather than community corrections. Sixty-two percent of the sample was male. Eighty-six percent of the sample was white. The average age was 35 years. Six percent of the sample has gang membership. The sample had an average education of GED/HS diploma. The average number of prior public order offense convictions was 1.62, and the average number of drug offense convictions was .30. The sample had a higher average of violent offense convictions 3.42.

Step 2

The second step is a presentation of bivariate correlations. Although the dependent measure is dichotomous, we believe it relevant to present an analysis of the shared variance between the measures. Table 2 shows that three measures – gang member-

Table 1. Descriptive statistics.

Measure	Mean	Standard deviation	Skewness	Kurtosis
Male	.62	–	−.48	1.77
White	.86	–	−2.04	2.15
Age	35.85	10.41	.78	.44
Gang member	.06	–	3.74	12.17
Education	2.18	.82	.71	.25
Public order offenses	1.62	4.11	3.76	15.79
Drug offenses	.30	1.37	8.48	87.00
Violent offenses	3.42	3.52	.94	−1.08
Prison sentence	.65	–	−.64	−1.61

ship (r=.25), education (r=−.22), and violent offense convictions (r=.49) – have a correlation with being sentenced to prison for a cybercrime. Table 2 shows that drug offense convictions and gang membership have a high correlation (r=.46) suggesting that multicollinearity may be a problem. Further analysis is necessary.

Step 3

Table 3 shows the logistic regression analysis to determine the correlates of the individuals being sent to prison rather than community corrections. To address the first research question, the table shows that biological sex differences in going to prison rather than community corrections have not come to fruition. To address the second research question, the table shows that previous public order offense convictions were 1.18 times more likely than other offense convictions to receive a prison sentence. The table shows that previous violent offense convictions were 5.64 times more likely than other offense convictions to receive a prison sentence. In addition, the tolerance measures show that multicollinearity was not an issue for these measures.

Discussion

Our first research question examined if there are sex differences in whether a cybercrime conviction leads to prison or community corrections. Interestingly, sex was not shown to be a predictive factor in regard to type of sentence for cybercrime offenders. Conversely, some research examining sentencing of crimes in the physical realm has found a disparity between sexes. Studies of sentencing for specific types of offenses have also shown a gender disparity. For example, Fernando, Curry, and Lee (2006) show that for drug and property offenses, females are less likely to be sentenced to prison. However, females are no less likely than males to receive prison time for violent offenses. Deering and Mellor (2009) found in a sample of offenders convicted of child sex abuse crimes in Australia, women were more likely than men to receive less jail time for their crimes, as well as lower nonparole periods due to their backgrounds.

The second research question investigated if the type of criminal history had a link to whether a cybercrime conviction leads to prison or community corrections. Findings indicated that previous public order offense convictions were more likely

Table 2. Bivariate correlations.

Measure	1	2	3	4	5	6	7	8	9
Prison sentence	1.00								
Male	−.08	1.00							
White	−.09	−.08*	1.00						
Gang member	.25*	.02	−.40*	1.00					
Age	−.10	.06*	.07*	−.17*	1.00				
Education	−.22*	.03	.20*	−.19*	.40*	1.00			
Public order offenses	.07	.04	−.06	.17*	−.04	−.17*	1.00		
Drug offenses	−.10	.02	−.07	.46*	−.05	−.09	.26*	1.00	
Violent offenses	.49*	−.14	−.07	.06	−.08	−.25*	−.26*	−.13	1.00

*p=.05.

Table 3. Logistic regression analysis.

Measure	*b*	SE	Exp (*b*)	Tolerance
Male	−20.21	40.19	.00	.97
White	.56	.75	1.75	.74
Gang member	24.57	10.60	.00	.63
Age	−.01	.02	.99	.75
Education	.02	.25	1.02	.75
Public order offenses	.17*	.06	1.18	.88
Drug offenses	−.55	.35	.58	.75
Violent offenses	1.73*	.51	5.64	.84
X^2=40.83*				
−2 Log Likelihood=148.74				
Cox & Snell R^2=.26				
Nagelkerke R^2=.34				

*p=.05.

to receive a prison sentence. However, offenders with previous violent offense convictions were much more likely than other offense convictions to receive a prison sentence. Again, this research makes an imprint in current literature as there is yet to date fewer studies that have examined the effect of criminal history on cybercrime sentencing. While there has been past research on the link between criminal history and sentencing, it is reserved to examination of crimes in the physical realm (Kurlychek & Johnson, 2004; Steffensmeier & Demuth, 2000).

While these findings are a contribution to a huge gap in the field, they further indicate the need for future research in the field. While past research has indicated that more cybercrimes occur in western states (Marcum et al., 2011; NWC3, Inc., 2010), it would be beneficial for future research to compare these findings to cybercrime sentencing in other regions of the country. Furthermore, future investigation on the effect of criminal history as a predictive factor on cybercrime behavior would be worthwhile. For example, does a criminal history of property crimes in the physical realm predict a higher likelihood of participating in destruction of property or identity theft online?

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